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Configuring international entrepreneurial orientation and dynamic internationalization capability to predict international performance

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ABSTRACT

In recent years, the dynamics of international business have changed. This has largely been attributed to uncertainties caused by the COVID-19 pandemic and global trends towards individualistic behaviours. To remain competitive, international entrepreneurial firms (IEFs) renew their behaviours and reconfigure their capabilities. However, scholars have hitherto not uncovered the configurational interplay connecting behaviours and capabilities between the pre-and-post-COVID periods. Drawing on the configurational perspective of dynamic capability theory, we explored the configurational specificities of dynamic internationalisation capability and an international entrepreneurial orientation (IEO) as the behavioural aspect of IEFs. Adopting a longitudinal approach, we applied fsQCA to data drawn from Malaysia. Results show that whereas, in the pre-COVID period, IEFs exhibited an IEO along with threshold and disruption capabilities, in the wake of the pandemic, they are gingerly manifesting an IEO with an overwhelming priority on value-adding and consolidation capabilities suited to weather crises and secure international performance.

1. Introduction

The COVID-19 pandemic has brought unique challenges to almost all businesses, affecting global operations (Gereffi, 2020) and representing a severe threat to business survival (Hughes et al., 2020). While some industries or sectors were hit hard, such as tourism and hospitality (Villacé-Molinero et al., 2021) and exporting (Mostafiz, Musteen, Saiyed, & Ahsan, 2022b), others, particularly healthcare, online retail and IT have thrived (Donthu & Gustafsson, 2020). The consequences have varied in terms of industry, economy, and the operating context (Kraus et al., 2020), and international entrepreneurial firms (IEFs), in particular, have not been exempt from COVID's destructive legacy

(Etemad, 2021). Due to broken global value chains and restrictions on international trade, IEFs have been subjected to tensions much higher than those affecting local entrepreneurial firms (Zahra, 2021). Unsurprisingly, a behavioural shift occurred among international entrepreneurs (Giones et al., 2020) engaged in cross-border activities (Mostafiz et al., 2022b). For instance, while some IEFs have retrenched their international operations by exporting to neighbouring countries or selected regions (Zahra, 2021), others have sought to focus on cutting-edge innovation (Akpan, Soopramanien, & Kwak, 2021), and recognising and pursuing new opportunities (Manolova, Brush, Edelman, & Elam, 2020) thereby, thriving internationally (Liguori & Pittz, 2020). By their very nature, IEFs are innovative, proactive, and have a

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tendency to take high risk; as a result, they embrace a rich international entrepreneurial orientation (IEO) that manifests itself in forward-looking and opportunity-seeking behaviours (Boso, Oghazi, & Hultman, 2017; Covin & Miller, 2014; Wales et al., 2019). During that behavioural shift, IEFs actively exercise dynamic capability (DC) related to the utilisation of resources in conducting international operations (Ahmed et al., 2023; Mostafiz et al., 2023), particularly the dynamic internationalisation capabilities (DICs) (Prange & Verdier, 2011).

Given the increased prevalence of global uncertainty throughout many business sectors, IEFs find themselves relying heavily on continuously reconfiguring their capabilities for their survival and growth (Kogut & Singh, 1988; Li, 1995; Prange & Verdier, 2011) and on adjusting them to navigate challenges (Ahmed et al., 2023; Crick & Crick, 2020). However, research on international entrepreneurship and the DC tradition has hitherto left unaddressed two important questions: (i) What reconfigurations of IEO and DICs are required for IEFs to ascertain their international performance when a behavioural shift happens, and (ii) how did the configurational combinations of IEO and the building blocks of DICs vary between two different environmental scenarios viz., the pre-and-post-COVID periods for IEFs? We address these empirical knowledge gaps in this research. Accordingly, we take on board Wilden et al.'s (2016) proposed 'architectural model' approach, whereby 'the effects of DCs on performance need to be investigated using a configurational mindset, that is, including both internal and external contextual factors' (p. 1001). Wilden, Devinney, and Dowling (2016) laid the groundwork for the theory that explores how various environmental and organizational elements can be configured to enhance the effectiveness of DC in achieving a competitive edge. Yet, to advance the theory, it is imperative not only to pinpoint which configurations are most efficacious, but also to understand how they work, and furthermore, develop a better understanding of individual elements of a configuration and the relationships therein (Wilden et al., 2016). This model is anchored in the principle of strategic fit, which suggests that the alignment between a firm's strategies, including IEO, and the firm's capabilities—dynamic and specifically internationalisation-focused capabilities—can significantly influence its market success.

For the purposes of the architectural model approach and to advance knowledge on configurations of dynamic internationalization capabilities, we rely on the seminal work of Prange & Verdier (2011). Prange & Verdier (2011) introduce the DIC concept and identify four specific components of DIC. Specifically: threshold, consolidation, value-adding, and disruption capabilities. However, as the authors stopped short of explicitly defining the DIC construct beyond its components and so we turn to works by Pinho & Prange (2016) and Bucciari et al. (2020) to explicitly define DIC. Thus, we define DIC as the set of capabilities that enable firms to competitively operate in foreign markets, including threshold, consolidating, value-adding, and disruption capabilities, all of which should be configured to navigate the challenges of global business environments and achieve competitive advantages (Prange & Verdier, 2011; Pinho & Prange, 2016; Bucciari et al., 2020).

Though largely in isolation, both IEO and DIC have gained traction among IE scholars in recent years focusing on explaining causal mechanisms, delineating firms' internationalisation process (Gupta, Pandey, & Sebastian, 2021), IEFs' performance outcomes (see for example, Ahmed, Babu, Rahman, Uddin, & Dey, 2023; Swoboda & Olejnik, 2016) and international opportunity identification and exploitation (Andersson & Evers, 2015; Mainela, Puhakka, & Servais, 2014; Zahra et al., 2022). To the detriment of collective understanding regarding IEC and DIC, however, configurational examinations of IEO (i.e. a behavioural shift) in conjunction with DICs are lacking in both IE and DC research traditions. Firms are required to reconfigure DCs, and by extension, DICs, in a sustained fashion (Dejardin et al., 2022; Zahra et al., 2022) for operating globally in times of crisis. However, due to reduced access to the global network and a lack of resources, IEFs face challenges in securing access to the resources required for DICs' development (Zahra,

2021), leading to a dilemma of whether to reconfigure their limited resources towards crafting new capabilities versus improving existing capabilities (Madsen, 2010). Indeed, the opportunity cost involved in building and improving capabilities—which is high for entrepreneurial firms in emerging economies (Zhou & Li, 2010)—has been further increased due to COVID (Zahra, 2021). Accordingly, our study responds to calls by Clark & Covin (2021), Wales, Kraus, Filser, Stöckmann, & Covin (2021), and WalesGupta, Marino, and Shirokova (2019) for research into IEO as a behavioural element of international entrepreneurs and how it can be better aligned with DICs through configurations (Gelhard, von Delft, & Gudergan, 2016; Wilden et al., 2016; Zahra et al., 2022), while also taking into consideration that the configurational combinations of IEO and DICs may well vary over time to conform to environmental idiosyncrasies.

We based the investigation on a longitudinal method that involved performing a configurational analysis aimed at comparing the combinations of IEO and DICs found in Malaysian IEFs during the pre-and-post-COVID period. Hence, the first contribution of our study is a theoretical scaffolding for IEO (Boso et al., 2017; Clark & Covin, 2021; Satyanarayana, Chandrashekar, Sukumar, & Jafari-Sadeghi, 2022), in that the need for DICs is paramount for an IEO to yield stable returns for IEFs. Specifically, we found that DICs drive any internally directed international entrepreneurial efforts aimed at securing international performance, thus enriching the knowledge on IEO configurations (Covin & Miller, 2014; Gupta et al., 2021) by expanding what it means for IEFs and how DICs can be mobilised to convert any IEO-driven actions into wealth creation. Likewise, by revealing the combination of DICs' conditions, we advance the configurational theorisation of DCs (Gelhard et al., 2016; Wilden et al., 2016; Zahra et al., 2022) in relation to weathering a crisis. Second, borrowing the notion put forward by McKenny, Short, Ketchen, Payne, & Moss (2018), Yin, Hughes, and Hu (2020), and Mostafiz et al. (2023) that *context* plays a significant role in reshaping IEO behaviours, we propose a triadic theoretical explanation of IEO, DICs, and context. In so doing, that is by prioritising the context (COVID-19), we explicate the conditions required to stably unlock the potential of IEO and DICs for IEFs. To achieve this, we applied *fsQCA* and the *necessity analysis of QCA (NCA)* to identify conditions necessary to establish conjunctural causations within these configurations, revealing which DICs are essential for the international success of IEFs at two different times. In doing so, we respond to Wilden et al.'s (2016) call for such empirical advances in understanding of dynamic capabilities. We found that DICs support two views of IEO: the first whereby, under normal circumstances (e.g., the pre-pandemic period), IEFs exhibit high-levels of IEO, require firms to invest significant amounts of resources into threshold and disruptive capabilities to innovate, function competitively, and succeed internationally. Conversely, the second view holds that when resources are unavailable as a result of exogenous shocks (e.g., the COVID pandemic) (Zahra, 2021), IEFs are concerned with manifesting IEO, bypass disruption and threshold capabilities and are keen on crafting consolidation and value-adding capabilities by following routine structures to operate globally. Although the consumption of resources in building actionable DCs is costly (Zahra, Petricevic, & Luo, 2022); however, consolidation and value-adding capabilities have the potential to deliver a better chance of international success in the post-COVID period. We make a clear distinction by establishing that, to yield a rent, an IEO needs to be carefully configured in combination with DICs, with a significant priority given to the context (i.e., competitive vs. uncertain/volatile markets/times).

2. Theoretical foundation

2.1. International entrepreneurial orientation and internationalization

The past decades of increasing globalization have resulted in many IEFs taking their place alongside more established international firms (Keupp & Gassmann, 2009; McDougall & Oviatt, 2000; Zahra,

Prange, Luo, & Zollo, 2017). These firms are defined as “international new ventures or start-ups that, from their inception, engage in international business” (Oviatt & McDougall, 2005: 4). IEFs identify, enact, evaluate, and exploit opportunities across national borders by being proactive and innovative and taking on higher levels of risk, all of which is conceptualised as an IEO (Freeman & Cavusgil, 2007; Gupta et al., 2021; Sundqvist et al., 2012). Empirical studies have confirmed that, in general, an IEO positively affects internationalisation and global performance (Hagen, Zucchella, Cerchiello, & De Giovanni, 2012; Liu, Li, Xue, & 2011; Zhang, Tansuhaj, & McCullough, 2009) and international scope (Ripollés-Meliá, Menguzzato-Boulard, & Sánchez-Peinado, 2007). Also, an IEO has been found to positively affect international preparedness: those conditions that precede international expansion (Knight, Madsen, Servais, & Rasmussen, 2000). Furthermore, it facilitates the acquisition of foreign market knowledge (Li, Wei, & Liu, & 2010). However, its various dimensions have been found to have mixed effects on various aspects of international performance. To illustrate, Zhang, Ma and Wang (2012) conclude proactiveness, as opposed to innovativeness, has the strongest positive effect, while in contrast, Kuivalainen et al. (2007) found that proactiveness is unrelated to the number of international markets in which a firm operates and to international turnover and that risk-taking is negatively associated with the former.

The mixed findings suggest that a positive IEO and international performance relationship is sensitive to context. Specifically, studies suggest that two sets of conditions determine the value of an IEO and its dimensions in relation to international performance: the external environment and internal capabilities of the firm (Mostafiz et al., 2023). Dimitratos, Lioukas, and Carter (2004) showed that uncertainty in both the home and host environments positively moderates the relationship between entrepreneurial activities and foreign sales. Sundqvist, Kyläheiko, Kuivalainen, and Cadogan (2012) found that market dynamism is a key factor; i.e., that, under conditions of market stability, exporting is more strongly affected by Kirznerian IEO dimensions, whereas, when conditions are more uncertain, Schumpeterian ones matter most (Gupta et al., 2021). In terms of internal capabilities, Li et al. (2010) found that IEO affects internationalisation speed through foreign market knowledge, thus emphasising the importance of organisational knowledge and learning. Similarly, Zhang et al. (2012) highlighted the importance of firm capabilities by showing that IT capabilities mediate the relationship between IEO and international performance. For Mostafiz et al. (2023), the effect of IEO on international performance is positive when moderated by process and product innovation capabilities. Two insights follow from this: IEFs need to possess the right capabilities (or combinations thereof) to benefit from internationalisation, and different combinations of capabilities are beneficial under different market conditions (Covin & Miller, 2014). This substantiates our research questions and calls upon a DC perspective to answer it (Teece, Pisano, & Shuen, 1997).

2.2. The dynamic internationalisation capability

The DC perspective is one of the most widely used theoretical frameworks when explaining the firm strategy, including the strategies of IEFs (e.g., Ahmed et al., 2023; Agarwal & Helfat, 2009; Monferrer, Moliner, Irún, & Estrada, 2021; Weerawardena, Mort, Liesch, & Knight, 2007). It defines a capability as “a firm’s capacity to deploy resources, usually in combination, using organizational processes, to effect a desired end” (Amit & Schoemaker, 1993, p. 35), which is dynamic when it is responsive to the external environment (Teece et al., 1997). Its origin is rooted in the resource-based view, which suggests that, to be competitive, firms need to possess resources which are valuable, rare, imitable and non-substitutable (Barney, 1991). However, the DC perspective predicts that having resources per se is not enough; the firm also needs to have capabilities to derive value from those resources and to be able to reconfigure the resources when the business environment changes (Teece, 2007; Teece et al., 1997).

Prange & Verdier (2011), while investigating the precise capabilities needed by firms to internationalise successfully, introduced the term ‘dynamic internationalisation capabilities’. The authors proposed four types of DICs: threshold and consolidation capabilities (which relate to the process of exploitation) and value-adding and disruption capabilities (which relate to the process of exploration) (Prange & Verdier, 2011). Threshold capabilities refer to those that are developed in the home market and, once a threshold is achieved, are ready to be applied in foreign ones (Prange & Verdier, 2011). Consolidation capabilities refer to the knowledge and resources accumulated under stable market conditions and, once consolidated, act as drivers of further internationalisation when deployed in foreign markets (Prange & Verdier, 2011). The authors stressed that, apart from these exploitative capabilities relating to incremental entry, there are other new and explorative ones that are more entrepreneurial in nature and also act as drivers of internationalisation. Value-adding capabilities are those involved in accessing inter-firm relationships whereby a focal firm gains access to any specific processes and routines it needs to internationalise (Prange & Verdier, 2011). Disruption capabilities refer to the rapid learning skills and competencies necessary for a swift entry into foreign markets (Prange & Verdier, 2011). Especially under conditions of environmental turbulence, there is a continual tension between the four types of DICs, which thus need to be balanced in order to stay competitive (Pinho & Prange, 2016). However, “while a balance between these activities is clearly important, there has not yet been sufficient conceptual and empirical work to explain how this might be undertaken” (Prange & Verdier, 2011, p. 132), and later also pointed by Pinho & Prange (2016) and Buccieri, Javalgi, and Cavusgil (2020). Therefore, DICs are referred to different sets of capabilities, depending on market conditions.

The insights gleaned from both IEO and DIC research describe these entrepreneurial behaviours and capabilities as distinct, with each involving different mechanisms and both being necessary for international companies, particularly firms to operate successfully. A key insight also affirms that any configuration of IEO and DICs needs to be responsive to the environment and that firms need to apply different configurations at different times. However, the literature addressing solutions to this issue is limited, and Mostafiz et al. (2023) argued that “nuanced research studies are required (e.g. configurational and quadratic analyses of IEO with other dynamic capabilities) to propose practical implications that firms could follow in responding to global challenges, sustaining and ameliorating international performance” (p. 17). A holistic understanding of the IEO and DICs dimensions under different market conditions is thus needed to provide a rich theoretical scaffolding and meaningful implications focusing on firms operating in the post-crisis period.

2.3. Configurational theorising between IEO and DICs

Configurational theory offers a holistic perspective on the interconnected nature of organisational elements, suggesting that understanding these elements in tandem, rather than in isolation, yields richer nuances (Fiss, 2007; Miller & Mintzberg, 1983). Central to this theory is the idea of orientation, wherein organizations are encouraged to align their capabilities to respond to the external environment to achieve optimal performance (Boyd, Takacs Haynes, Hitt, Bergh, & Ketchen, 2012; Venkatraman, 1989). Wilden et al. (2016) extend this perspective with their architectural analogy, comparing an organisation to a house, emphasizing the role of various orientations and DCs in determining its resilience to environmental challenges.

Reimagining this analogy within the scope of IEO, the structural integrity of this “house” is influenced not by a predetermined general orientation but by its entrepreneurial approach to international markets. This approach focuses on innovativeness, proactiveness, and risk-taking in venturing internationally. Just as DC can drive change towards specific and competitive capabilities in line with a firm’s strategic directions (e.g., differentiation or cost leadership) in an international

entrepreneurship context, they facilitate the firm's nimbleness and adaptability in international terrains. Depending on the chosen entrepreneurial trajectory, DCs might steer towards pioneering innovations in new international markets or swiftly adapting to foreign consumer preferences.

Consequently, the success of DICs is not solely contingent on their presence but also on their alignment with the IEF's IEO. If the DICs do not echo the entrepreneurial aspirations of IEFs appropriate for the global market context, they may inadvertently misalign the firm with its international environment (Schilke, Hu, & Helfat, 2018). This revised understanding aligns with configurational theory, advocating for a cohesive model where DCs, IEO and the context intertwine. Drawing from Wilden et al.'s (2016) metaphor, the "house of DCs" must be architecturally designed with a specific orientation of the firms to thrive in its global market effectively.

Configurational thinking rests on four theoretical assumptions: conjunction, equifinality, asymmetry, and causal asymmetry (Misangyi et al., 2017). Conjunction refers to the assumption that, rather than from a single condition, an outcome can stem from a combination of multiple ones (Misangyi & Acharya, 2014). Therefore, no single condition alone is 'sufficient or necessary' to explain a high score in an outcome condition (Pandey, Kumar, Post, Goodell, & García-Ramos, & 2022). The discussion presented in the sections above suggests that this condition applies when explaining the internationalisation performance of IEFs. Specifically, the extant literature has established that to succeed in foreign markets, IEFs need to develop a rich IEO, which needs to be effectuated through different DICs, as an IEO is insufficient to achieve strong international performance. For example, network relationships (e.g., business ties) may help SMEs to internationalise, but only if they are able and willing to recognise any foreign market opportunities in the first place (Zhang et al., 2012). Similarly, IEFs can create value from DICs—e.g., by scanning and planning—if they concurrently exhibit an IEO (Swoboda & Olejnik, 2016).

Equifinality refers to the assumption that the same outcome can be achieved by means of different configurational combinations of conditions (Misangyi et al., 2017). Wu et al. (2014) argued that multiple configurational combinations of conditions might co-exist and be sufficient to attain a high score in relation to an outcome. Equifinality occurs in the presence of a trade-off between the strengths and weaknesses of various input conditions or when the input conditions have different interaction effects on the outcome (Gresov & Drazin, 1997). For example, depending on how they are paired to achieve the internationalisation objective of a firm, international proclivity and intensity can be equally effective at maximizing the degree of internationalisation (Arikan & Shenkar, 2021). In the context of IEFs, previous studies have examined the effects of the different dimensions of equifinality on internationalisation performance, in some cases yielding mixed findings. However, the interactions between different sets of dimensions may be what matters more and, in fact, may lead to the desired result. For instance, proactiveness combined with risk-taking may have a positive effect on international performance, whereas to outperform competitors, innovativeness requires a combative posture (Mostafiz, Hughes, & Sambasivan, 2021). Therefore, with an IEO in place, an IEF may disrupt a target market with radical innovation; in contrast, in the absence of such an IEO, an IEF may incrementally expand internationally by adding value to its existing offers (i.e. products/services) (Gupta et al., 2021).

Asymmetry refers to the assumption of contrarian cases under which the absence of an input condition that leads to a high outcome score does not necessarily result in a low one (Furnari et al., 2021). The extant literature that has attempted to unpack IEO has yielded inconclusive findings. For instance, when markets are relatively stable, firms need to display high levels of competitive aggressiveness and proactiveness in order to achieve stronger export profits; conversely, when markets are dynamic, they need to focus more on innovativeness, risk-taking and autonomy (Sundqvist et al., 2012). Similarly, radical innovation, which can lead firms to strong performance in competitive markets (Hughes,

Chang, Hodgkinson, Hughes, Chang, 2021), may have non-significant effects in different contexts (Baker, Sinkula, Grinstein, & Rosenzweig, 2014). Therefore, contradictory scenarios between input conditions and outputs may present themselves (Hughes, Cesinger, Cheng, Schuessler, & Kraus, 2017).

The fourth assumption, causal asymmetry, extends the third (Ragin, 2009). In this assumption, the configurational combinations of conditions that lead to high outcome scores are not mirror images of those leading to low scores for the same outcome (Fiss, 2011). In other words, the conditions that boost international performance may differ from those that hamper it and those with no impact. This configurational theorisation assumption contrasts with conventional correlation thinking based on symmetric relationships (Fiss, 2011). Different DICs have been shown to have different effects on performance, with non-significant relationships also having been found, such as in the case of threshold capabilities (Pinho & Prange, 2016). Other firm and environmental factors have also been found to affect the direction and significance of the relationship between DICs and international performance. For example, value-adding capabilities positively affect profits depending on the level of financial resources committed to new product development, the potential for returns invested in rapid expansion, and new routine generation and partner management (Pinho & Prange, 2016; Zollo & Winter, 2002). Likewise, the effects are negative for an IEO in an extreme context (Mostafiz et al., 2023) but can also be non-significant in a competitive market (Bianchi, Glavas, & Mathews, 2017) or positive (AlShehhi, Cherian, Farouk, & Al Nahyan, 2023). Hence, all four theoretical assumptions encouraged us to choose a set-theoretic approach over a reductionist analysis because only configurational theorising can offer nuances in complex business settings (Furnari et al., 2021; Misangyi et al., 2017). As such, we take this approach in configuration theory to address the research question posed for this study.

3. Research methods

3.1. Configurational analysis

A configurational analysis is a set-theoretic approach that involves applying rules of logical inference to determine which logical implications are supported by the data (Fiss, 2011). In contrast to conventional, variance-based methods such as regression techniques, a configurational approach presents the advantage of enabling the investigation of conjunctural causation, equifinality, asymmetry, and causal asymmetry (e.g., Fiss, 2011; Hughes et al., 2018; Woodside, 2013). Whereby researchers are urged not to "specify a single causal model that fits the data best (as one usually does with statistical techniques), but instead to determine the number and character of the different causal models that exist among comparable cases" (Ragin, 1987: 167). We, therefore, allowed the data to articulate a theoretical development surrounding IEO and DCs by revealing any critical configurational combinations of IEO and DICs required to operate internationally in the post-COVID period, compared to those prevalent in the pre-COVID one. This dovetails seamlessly with configurational theory—advocates a comprehensive viewpoint on the intricate web of organizational elements. Drawing from Wilden et al.'s (2016) architectural metaphor on DC's configuration, the potency of DICs is intricately linked not just to their existence but to their resonance with the IEF's IEO as a part of the firm's strategic orientation. This reconceptualisation resonates with our data-driven perspective, spotlighting the intertwined nature of DICs, IEO, and their contextual backdrop, especially in contrasting pre-and-post-COVID periods.

3.2. Research context

Our study is based on longitudinal data drawn from Malaysian entrepreneurial firms. Malaysia is an emerging economy with a high propensity for entrepreneurial activities (Mostafiz, Ahmed, & Hughes,

2022a) and impressive economic growth among Asian nations (Falihat, Soto-Acosta, & Ramayah, 2021). According to the World Bank (2022), Malaysia is “an upper middle-income country; is both a contributor to the development of low- and middle-income countries and a beneficiary of global experience in its own journey towards high-income and developed nation status”. With its exceptionally high entrepreneurial growth ambitions, Malaysia is becoming a high-income nation, making its business environment unique compared to its neighbours (Jones, Huxtable-Thomas, Hannon, Hamidon, & Mohd Tawil, 2021). However, Malaysian businesses have not been exempt from the devastating consequences of the COVID-19 pandemic (Mustapa & Mohamad, 2021). The Malaysian Government has announced several reforms to support businesses, such as reducing the cost of doing business internationally by organising trade expositions, providing advisory support, minimising taxation, and signing bilateral agreements (World Bank, 2022). Report has shown that, by 2030, half of the country’s GDP will come from international entrepreneurial activities (New Strait Times, 2019). Therefore, considering the economic benefits of entrepreneurship, the Malaysian government are actively engaged in promoting entrepreneurial activities (Hassan, Sade, & Rahman, 2020).

As the manufacturing and service sectors contribute equally to Malaysia’s GDP growth, we collected data from both. The country’s economy is depended on various industries, such as cars, financial services, and software solutions (Hodgkinson, Hughes, & Arshad, 2016). Before COVID, these firms had significantly invested in radical innovation involving sophisticated raw materials, R&D investment aimed at new products/services, increased manufacturing capacity, international collaborations, and foreign investment (MOSTI, 2018). Malaysian IEFs, which are highly proactive, risk-taking, and innovative, heavily accumulate foreign knowledge to complement market orientation (Falihat et al., 2021). However, Malaysian firms have shown resilience during and after the COVID-19 pandemic, revised their strategies, and navigated challenges (Mustapa & Mohamad, 2021). Hence, the Malaysian context was eminently suited for investigating the research questions and understanding the international performance determinants of its entrepreneurial firms for theory and policy development.

3.3. Data collection and samples

The data were collected over two time periods. The sample firms were selected from the 27,902 firms listed in Malaysia’s National Entrepreneur Directory (MEDAC, 2018). In the first data collection round, from November 2018 to January 2019, 3000 firms were randomly selected (i.e., randomly picked the fourth firm from the list) (Hibberts, Burke Johnson, & Hudson, 2012) and contacted via phone and email. Of these, 261—a response rate of 8.7%—agreed to participate in the research and also confirmed that they had introduced new/existing products or services in new/existing international markets over the previous three years, which enabled us to corroborate their international entrepreneurial status (Mostafiz et al., 2023). We followed an essential informant approach (Bucciari et al., 2020) and thus distributed the questionnaire (in English) to the founders/owners of the firms in January 2019 to respond to the questions on the IEO and DIC. In March 2019, we asked the managers (i.e., the general, deputy general, and finance managers) of the same firms to supply us with their international performance data. In total, we collected 259 complete responses in the first round of data collection.

We then initiated the second data collection round in April 2022. We queried the 261 firms that had responded in the first round and received confirmation of the operation of their international business activities from 246 of them. We emailed the questionnaire to the founders/owners of the organisations to provide information on IEO and DIC. We then contacted the finance managers, general and deputy general managers in June 2022 to collect data on their international performance. The final sample size for the second data collection round was 231.

3.4. Measurement

We adapted all the items used in our research from previously validated studies. We sourced the international performance construct from Lu, Zhou, Bruton, and Li (2010) and used five items to measure it for our sample firms. Sample items were *market shares in overseas markets*, *return on investment through overseas sales*, and *profitability from overseas expansion*. All items were measured on a five-point Likert scale ranging from 1 = *very low* to 5 = *very high*. The Cronbach alpha was 0.89 for the international performance reported by Lu et al. (2010). Capturing international performance accurately is fraught with challenges. Traditional financial metrics, though invaluable, sometimes fall short due to the multifaceted nature of global operations. Although subjective performance measures can be affected by self-assessment noise (Mostafiz et al., 2022a), they provide a substantial and comprehensive picture of the performance, as the items can be phrased to elicit comparison with competitors (Cruz-González, López-Sáez, Navas-López, & Delgado-Verde, 2014). Several firms, for reasons ranging from strategic discretion to sheer confidentiality, are either unwilling or incapable of divulging financial data (Brouthers & Xu, 2002). This lack of access is further compounded by international discrepancies in accounting practices (Woodcock, Beamish, & Makino, 1994). Subjective performance measurements, rather than limitations, offer a unique vantage point and are often advised in emerging economy contexts (Kirca, 2011) due to the difficulties in accessing objective performance data in survey-based studies. In addition, prior research has also established a strong correlation between subjective and objective performance indicators (Dess & Robinson (1984); Sidhu, Commandeur, & Volberda, 2007). In our investigation, we adopted a nuanced five-point Likert scale, encapsulating key performance facets from growth to customer satisfaction, thereby offering a holistic insight into firms’ international success. Such an approach, backed by empirical evidence and tailored to circumvent the limitations of financial data, ensures that our assessment of international performance is both comprehensive and robust.

Based on Pinho & Prange (2016), we measured our sample firms’ DICs based on their four sub-dimensions—threshold, consolidation, value-adding, and disruptive capabilities—on a five-point Likert scale ranging from 1 = *strongly disagree*, to 5 = *strongly agree*. Five items were used to operationalise threshold capability (previous Cronbach alpha: 0.888). Sample items were: *our firm acquires export market-related information about new markets*, *our firm assesses the potential of new markets*, and *our firm builds relationships with new international suppliers*. We operationalised consolidation capability using four items (previous Cronbach alpha: 0.884). Sample items were: *our firm enhances the collection of important market information in existing markets*, and *our firm reinforces its contacts in current export markets*. We also operationalised disruption capability using four items (previous Cronbach alpha: 0.868). Sample items were: *our firm acquires radically new technologies*, and *our firm acquires competencies in processes and products/services that are radically new*. Finally, we operationalised the value-adding capability using six items (previous Cronbach alpha: 0.884). Sample items were: *our firm invests in enhancing its skills in exploiting mature technologies that improve productivity*, and *our firm upgrades its skills in product/service-development processes*.

We sourced the IEO construct from Hernández-Perlines, Moreno-García, and Yañez-Araque (2016) and treated it as a second-order factor consisting of innovativeness, risk-taking, and proactiveness (a total of 14 items; previous Cronbach alpha: 0.791) (Mostafiz et al., 2023). All measurement items ranged along a five-point Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Sample items of innovativeness were: *our firm believes that the opportunities offered by international markets are greater than those found in the domestic one*, and *our firm has the mentality needed to encourage new ideas for international market operations*. A sample item of proactiveness was: *we regularly monitor the trend of export markets to deal with new challenges*, and sample items for risk-taking were: *we are always tolerant to potential risk when*

confronted with decisions about exporting or international operations, and we have a shared vision towards the risks involved in foreign markets.

4. Results

4.1. Descriptive statistics

Our sample firms included automotive components, drug and pharma, engineering services, machinery and equipment manufacturers, computer components exporters, IT and software services, and data processing. In the pre-COVID period, they were five to 14 years old and, on average, employed 34 workers (with a minimum of 17 and a maximum of 72). In the post-COVID period, their ages ranged from eight to 17 years, and their workforces comprised an average of 29 employees (a minimum of 13 and a maximum of 76).

Tables 1 and 2 present our sample’s descriptive statistics, and reliability and validity of the constructs for the pre-and-post-COVID periods, respectively. The Skewness and Kurtosis values for both periods fall between + 2 and – 2, confirming the normal distribution of the data (Shapiro & Wilk, 1965). Moreover, all Cronbach alpha and composite reliability values are higher than 0.70, thus showing adequate internal consistency (Hair, Anderson, Babin, & Black, 2010). The average variance extracted (AVE) values of all constructs are higher than 0.50, confirming the constructs’ convergent validity (Fornell & Larcker, 1981). The square root of AVE values is higher than the correlation values, and the AVE values are higher than the maximum shared variance ones, thereby confirming the discriminant validity of the constructs (Henseler, Ringle, & Sarstedt, 2015).

4.2. FsQCA results

We first performed a cross-tabulation analysis to identify any contrarian cases that theoretically warranted the application of fsQCA (Hughes et al., 2017). We did so because a regression analysis is performed when relationships are symmetrical; however, if a sample presents contrarian cases, the relationships between the input conditions and the output are asymmetrical (Woodside, 2014). We divided all cases into the highest and lowest quintiles. We used the mean value of the items to compute the factor score and obtained five quintiles for each

Table 1
Correlations, normality, reliability and validity in the Pre-COVID period (n = 259).

International entrepreneurial orientation	0.720					
Threshold capability	0.282	0.730				
Consolidation capability	0.269	0.146	0.708			
Value-adding capability	0.201	0.286	0.272	0.770		
Disruptive capability	0.248	0.258	0.239	0.218	0.757	
International performance	0.285	0.284	0.296	0.222	0.216	0.763
Mean	62.344	22.194	18.026	17.981	28.997	21.954
Standard deviation	3.455	1.937	1.601	1.160	2.299	1.967
Skewness	0.849	0.039	0.558	0.606	0.344	0.274
Kurtosis	0.428	0.449	0.821	0.156	0.395	0.625
Cronbach alpha	0.724	0.702	0.792	0.786	0.736	0.739
Composite reliability	0.713	0.792	0.729	0.785	0.770	0.780
Average variance extractor (AVE)	0.519	0.533	0.501	0.593	0.573	0.582
Maximum shared variance	0.297	0.256	0.298	0.256	0.288	0.217

Note: the diagonal values are the square roots of AVE

Table 2
Correlations, normality, reliability and validity in the Post-COVID period (n = 231).

International entrepreneurial orientation	0.727					
Threshold capability	0.222	0.719				
Consolidation capability	0.231	0.269	0.733			
Value-adding capability	0.248	0.256	0.278	0.719		
Disruptive capability	0.205	0.211	0.222	0.232	0.734	
International performance	0.236	0.215	0.254	0.265	0.269	0.760
Mean	61.387	22.113	17.928	17.010	27.031	22.920
Standard deviation	4.066	2.727	1.358	1.658	2.325	2.502
Skewness	0.972	0.426	0.335	0.311	0.679	0.218
Kurtosis	0.951	0.387	0.013	0.790	0.536	0.392
Cronbach alpha	0.746	0.733	0.766	0.739	0.758	0.765
Composite reliability	0.723	0.740	0.715	0.737	0.714	0.749
Average variance extractor	0.528	0.517	0.538	0.517	0.539	0.578
Maximum shared variance	0.222	0.238	0.257	0.237	0.237	0.254

Note: the diagonal values are the square roots of AVE

condition. The grey zones in Tables 3 and 4 represent the contrarian cases (i.e., asymmetrical relationships). For instance, eight of our sample firms were found to have scored 5 for IEO and 2 for international

Table 3
Cross-tabulation analysis (Pre-COVID period).

Constructs		International performance					Total count	Effect size
		1	2	3	4	5		
IEO	1	1	5	3	0	0	9	0.219
	2	7	34	19	0	0	60	
	3	7	12	35	2	0	56	
	4	1	12	71	6	2	92	
	5	0	8	20	2	12	42	
	Total count	16	71	148	10	14	259	
Threshold capability	1	0	1	4	2	2	9	0.175
	2	1	12	19	23	5	60	
	3	0	7	12	33	4	56	
	4	0	0	28	45	19	92	
	5	0	0	6	14	22	42	
	Total count	1	20	69	117	52	259	
Consolidation capability	1	0	7	1	1	0	9	0.199
	2	11	21	18	8	2	60	
	3	5	13	25	11	2	56	
	4	0	22	24	36	10	92	
	5	0	3	3	20	16	42	
	Total count	16	66	71	76	30	259	
Value-adding capability	1	1	6	1	1	0	9	0.201
	2	16	23	13	6	2	60	
	3	7	15	24	8	2	56	
	4	8	22	17	25	20	92	
	5	0	0	2	16	24	42	
	Total count	32	66	57	56	48	259	
Disruptive capability	1	1	2	1	5	0	9	0.223
	2	13	29	7	8	3	60	
	3	6	2	0	31	17	56	
	4	2	13	9	46	22	92	
	5	2	1	2	23	14	42	
	Total count	24	47	19	113	56	259	

Table 4
Cross-tabulation analysis (Post-COVID period).

Constructs		International performance					Total count	Effect size
		1	2	3	4	5		
IEO	1	6	6	0	0	0	12	0.206
	2	4	38	2	2	0	46	
	3	0	16	20	5	0	41	
	4	0	8	16	63	14	101	
	5	0	0	0	3	28	31	
	Total count	10	68	38	73	42	231	
Threshold capability	1	6	6	0	0	0	12	0.211
	2	4	38	2	2	0	46	
	3	0	16	20	5	0	41	
	4	0	8	16	63	14	101	
	5	0	0	0	3	28	31	
	Total count	10	68	38	73	42	231	
Consolidation capability	1	1	10	1	0	0	12	0.179
	2	10	27	8	1	0	46	
	3	6	27	8	0	0	41	
	4	0	9	28	44	20	101	
	5	0	0	0	4	27	31	
	Total count	17	73	45	49	47	231	
Value-adding capability	1	2	6	4	0	0	12	0.193
	2	2	10	25	7	2	46	
	3	0	1	21	19	0	41	
	4	0	0	15	81	5	101	
	5	0	0	0	16	15	31	
	Total count	4	17	65	123	22	231	
Disruptive capability	1	10	2	0	0	0	12	0.184
	2	20	12	13	1	0	46	
	3	8	22	8	2	1	41	
	4	6	28	59	8	0	101	
	5	1	1	1	1	27	31	
	Total count	45	65	81	12	28	231	

performance in the pre-COVID period (i.e. Table 2). Likewise, in the post-COVID period, 28 firms were found to have scored 4 for disruption capability and 2 for international performance (i.e. Table 3). In addition, the effect size for the relationships between each condition and international performance was found to be considerably low. Hence, the results were found to warrant the application of fsQCA to investigate these asymmetrical relationships.

The fsQCA application requires data to be converted from their original scores to fuzzy ones ranging from 0.00 to 1.00. We thus performed the conversion process by following the guidelines laid out by Ragin (2009), whereby non-membership scores represent 5%, cross-over anchors represent 50%, and full-membership represent 95% of the value. We then developed the truth-table algorithm based on the fuzzy scores. It helps to reorganise the sufficient configurations for the outcome and eliminate any remaining configurations that did not qualify based on a minimum consistency cut-off point of 0.80 (Chang, Chang, & Li, 2013). Tables 5 and 6 highlight the results of the truth-table algorithm for the pre-and-post-COVID periods, respectively. Finally, as suggested in management research, we performed a standard analysis (Hughes et al., 2017). Table 7 presents the results of the immediate solution⁶ of the configurational combinations of IEO and the DICs dimensions in the pre-and-post-COVID periods.

The two parameters of consistency and coverage are used to explain the results of fsQCA. Ragin (2009) suggested that “consistency measures

the degree to which a relation of necessity or sufficiency between a causal condition and an outcome is met within a given dataset; coverage provides a measure of empirical relevance” (analogous to R^2 in regression) (Hughes et al., 2017, p. 180). The minimum consistency value was found to be 0.79 for both the pre-and-post-COVID periods (i.e. Table 7), representing very high levels of consistency (Fiss, 2007). Therefore, the configurational combinations were found to be adequate and acceptable at this consistency level. Coverage refers to the extent of the configurations responsible for achieving the outcomes (Furnari et al., 2021). The minimum raw coverage value was found to be 0.31 for both the pre-and-post-COVID periods, indicating that these configurational combinations explain a large proportion of international performance (in Table 7). We identified four configurational combinations for the pre-COVID period and three for the post-COVID one. These multiple configurational combinations co-exist and are opposed to a single model. Therefore, firms are not limited to following one single model but may transfer from one to another to enjoy high international performance.

4.3. Necessity analysis of QCA

One of the limitations of fsQCA is that it delivers sufficiency but is not a necessity (Fainshmidt, Witt, Aguilera, & Verbeke, 2020). Therefore, performing a necessity analysis of QCA is suggested to overcome the limitation (Thiem, 2021). To maintain consistency, we used calibrated scores to perform the NCA. The outcome condition was set to international performance against IEO and the sub-dimensions of DICs to investigate for necessary conditions both in the pre-and-post-COVID periods. Based on the recommended cut-off point of 0.90 (i.e. both for presence and absence) (Schneider & Wagemann, 2012; Soto Setzke, Riasanow, Böhm, & Krčmar, 2021), we identified three necessary conditions and one absent condition in the pre-COVID period and two necessary conditions and two absent conditions in the post-COVID one. Table 8 presents the results.

4.4. Robustness analysis

To test for robustness, we followed the guidelines laid out by Emmenegger, Schraff, and Walter (2014). We changed the calibration point and separated the scores into three quantiles as full membership (highest-value), cut-off point (mean value) and no membership (lowest value) to produce fuzzy scores. We completed the truth-table algorithm and removed the cases that did not qualify (Fiss, 2011). We then performed a standard analysis with the remaining cases to investigate the configurational combinations. The results of our robustness analysis are highlighted in Table 9. Although the robustness results were found to show some variations, they were not found to diverge from the original ones obtained in the original fsQCA.

5. Discussion

In our study, we endeavoured to understand the differences between the configurational combinations of IEO and DICs among IEFs in the pre-and-post-COVID periods. Due to exogenous shocks such as those caused by the COVID-19 pandemic, IEFs significantly changed their behaviours towards international markets and renewed strategies to take a more cautious approach to operating globally. Based on the configurational theorising of DCs that the utility of DIC is contingent upon various strategic orientations (Gelhard et al., 2016; Wilden et al., 2016), in our study, we revealed multiple distinctive configurational combinations for IEFs to operate in the pre versus post-COVID periods. The results show that, in the pre-COVID period, IEFs had more equifinal configurations available to them than in the post-COVID period, which, *prima facie*, are dense (e.g. see Table 7). The results also reveal that IEFs require a different set of DICs' configurations, which asserts the importance of concurrently considering an IEO and different sets of DICs as crucial

⁶ The standard analysis produces three different outputs: complex solutions, parsimonious solutions, and intermediate solutions. The most accepted solutions in management research are the intermediate ones, as they are superior to both the others (Cheng et al., 2013).

Table 5

Truth-table algorithm (Pre-COVID period).

IEO	Threshold capability	Consolidation capability	Value-adding capability	Disruptive capability	Number of firms	International performance	Consistency
0 0		1	0	1	11	1	0.98754
0 0		1	0	1	18	1	0.98923
1 1		1	0	1	7	1	0.95823
0 1		0	0	1	19	1	0.95442
0 1		1	1	0	5	1	0.89935
1 0		0	1	1	18	1	0.87517
1 1		0	0	1	9	1	0.86479
1 0		0	1	0	10	1	0.85456
0 1		1	0	1	16	1	0.85121
0 0		0	0	1	3	1	0.84995
0 1		1	1	0	8	1	0.84796
1 0		1	1	1	7	1	0.83677
0 1		0	1	1	5	1	0.82091
1 0		0	1	1	2	1	0.81121
0 0		0	1	0	9	1	0.81004
1 0		0	0	1	11	1	0.80237
1 0		1	0	0	9	1	0.80123
0 1		0	0	0	1	1	0.79991
1 0		0	0	0	10	1	0.79816
0 0		0	0	1	9	1	0.79501
0 1		1	1	0	11	1	0.79295
0 0		1	0	1	8	1	0.79155
0 1		0	1	0	6	0	0.68979
0 1		0	1	0	2	0	0.68572
1 1		0	1	1	9	0	0.58270
1 0		1	1	1	2	0	0.58192
1 0		1	0	0	7	0	0.42074
1 0		0	1	0	9	0	0.39251
1 1		0	0	1	3	0	0.36473
1 1		1	1	0	2	0	0.35648
1 0		0	0	1	2	0	0.33800
0 0		0	1	1	3	0	0.31598
1 1		1	1	1	2	0	0.29848
0 0		0	0	0	6	0	0.27014

Table 6

Truth-table algorithm (Post-COVID period).

IEO	Threshold capability	Consolidation capability	Value-adding capability	Disruptive capability	Number of firms	International performance	Consistency
0 0		1	1	0	12	1	0.98054
1 0		1	0	0	3	1	0.97895
1 1		1	0	0	4	1	0.95040
0 1		0	1	1	17	1	0.91631
1 0		1	1	1	2	1	0.90796
0 1		1	0	0	4	1	0.89575
0 1		1	0	0	18	1	0.88742
1 1		0	1	1	8	1	0.87409
0 1		1	0	1	4	1	0.85423
0 0		0	1	0	16	1	0.84838
1 0		0	0	1	18	1	0.83074
1 0		0	0	0	11	1	0.82334
0 0		1	1	1	13	1	0.81651
0 0		1	0	1	9	1	0.79211
1 0		0	0	0	8	1	0.77309
1 0		1	0	0	6	1	0.76553
1 1		0	1	1	6	1	0.76180
1 0		0	0	0	2	0	0.71494
0 0		0	1	0	7	0	0.71228
0 0		1	0	1	9	0	0.68273
0 0		0	1	0	11	0	0.65763
0 0		0	0	0	9	0	0.58923
1 0		0	1	0	7	0	0.51477
0 0		1	0	1	2	0	0.40108
0 1		1	0	0	9	0	0.40051
0 1		1	1	1	5	0	0.34961
1 0		0	1	0	8	0	0.32921
1 1		1	1	1	1	0	0.31050
0 0		1	0	1	2	0	0.29136

Table 7
fsQCA results.

Path	IEO	Threshold capability	Consolidation capability	Value-adding capability	Disruptive capability	Raw coverage	Unique coverage	Consistency	Solution coverage	Solution consistency
Pre-COVID										
1a	•	○	○	○	○	0.31565	0.13963	0.79120	0.82906	0.77702
1b	•	•	☒	○	•	0.47277	0.18486	0.99972		
1c	•	•	○	○	•	0.34317	0.12721	0.94007		
1d	○	•	○	•	○	0.31288	0.11931	0.86133		
2a	○	○	○	•	○	0.37087	0.15655	0.85203	0.81667	0.81698
2b	○	○	•	•	☒	0.41101	0.18683	0.91583		
2c	○	○	•	•	☒	0.37630	0.13153	0.79388		

Legends: '•' represents full membership (core condition); '○' represents partial membership (peripheral condition); '☒' represents negate, and 'blank' represents no membership

Table 8
Necessity analysis of QCA results.

Condition	Pre-COVID		Post-COVID	
	Outcome condition: international performance			
	Consistency	Coverage	Consistency	Coverage
IEO (~)	0.955 (0.583)	0.759	0.663 (0.935)	0.558
Threshold capability (~)	0.987 (0.399)	0.765	0.678 (0.847)	0.614
Consolidation capability (~)	0.710 (0.901)	0.646	0.929 (0.552)	0.786
Value-adding capability (~)	0.703 (0.722)	0.628	0.924 (0.391)	0.783
Disruptive capability (~)	0.915 (0.485)	0.760	0.632 (0.901)	0.622

Note: Bold type represents the necessary condition, and '~' represents the absent condition.

organising principles for the successful operation of IEFs, discussed below.

5.1. Paths related to the pre-COVID period

We found in the pre-COVID period that IEFs had shown a very high propensity to exhibit an IEO. This result corroborates with prior literature suggesting that a dynamic market environment requires firms to be more innovative, proactive and risk-takers (Miller, 1983; Ruiz-Ortega et al., 2013) to exploit emerging market opportunities (Rauch, Wiklund, Lumpkin, & Frese, 2009). These results align with insights gleaned from the Malaysian context (Falahat et al., 2021; Mostafiz et al., 2021). The pre-COVID international business environment was marked by pronounced fluctuations in consumer purchasing behaviours and heterogeneity in product or service specifications (Li & Liu, 2014; Miller & Friesen, 1982). This period was also marked by relentless technological advancements and the unpredictability of customers and competitors (O'Reilly, Harreld, & Tushman, 2009), which necessitated innovation and higher risk tolerance by firms (Ruiz-Ortega, Parra-Riquena, Rodrigo-Alarcón, García-Villaverde, 2013), also promoted the adoption of an IEO to recognise new business opportunities (Rauch et al., 2009). In particular, the changes taking place in markets, competencies, and technologies compelled firms to develop an IEO in order to take advantage of any new opportunities (Rosenbusch, Brinckmann, & Bausch, 2011).

In addition to exhibiting a very high IEO, IEFs were found to have exercised their threshold and disruptive capabilities as DICs (e.g. see Table 7). Our NCA and robustness test results were found to complement these conditions, as an IEO and both threshold and disruptive capabilities were evidenced to be conditions necessary to enhance IEF performance (e.g. see Table 8). Given the high dynamism of the market, characterised by shorter product lifecycles and regular technological upheavals (Patel, Fernhaber, McDougall-Covin, & Van der Have, 2014), firms should optimise their operational efficacy and strategic orientation to remain competitive across diverse markets (Pinho & Prange, 2016). Central to this, possessing information and knowledge bears immense importance, echoing the international learning orientation literature in the IB context (D'Angelo & Presutti, 2019). The argument also supports the resource-based view of the firms in a dynamic environment as "present an urgent need to acquire new knowledge and information upon which firms should act by constantly, rapidly, and flexibly reconfiguring their resource bases" (Adomako et al., 2016, p. 634). For IEFs, knowledge of export markets, competitors, suppliers, and distributors is critical (Ahmed & Brennan, 2019) to ensure that their own existing processes, activities and strategies are best aligned with the market dynamics (Ahmed et al., 2023), thereby orchestrating the organizational structures to competently navigate varied market terrains (Pinho & Prange, 2016). An imperative facet of this was the capability to pioneer revolutionary product or service innovations, outpacing competitors and

Table 9
fsQCA results (robustness).

Path	IEO	Threshold capability	Consolidation capability	Value-adding capability	Disruptive capability	Raw coverage	Unique coverage	Consistency	Solution coverage	Solution consistency
Pre-COVID	○	○	○	○	○	0.38087	0.11302	0.81033	0.82450	0.77081
1a	●	☒	○	○	●	0.43472	0.12834	0.96256		
1b	●	○	○	○	○	0.41839	0.12159	0.80521		
1c	○	○	☒	○	○	0.33132	0.11364	0.85515		
1d	○	○	○	●	○	0.33545	0.11810	0.89128		
2a	○	○	○	○	○	0.47273	0.12701	0.97049	0.93848	0.78026
2b	☒	○	○	○	○	0.31849	0.11087	0.88951		
2c	○	☒	●	○	☒					

Legends: ● represents full membership (core condition); ○ represents partial membership (peripheral condition); ☒ represents negate, and 'blank' represents no membership

reshaping market dynamics (Bhattacharai, Kwong, & Tasavori, 2019). Exercising disruption capabilities—which facilitate experimentation with new practices, creative thinking, and technological developments (Li et al., 2010)—allowed firms to devise foreign market solutions ahead of their competition, leading to enhanced revenue streams (Song & Parry, 1997). Prior literature suggests that firms endowed with strong innovation capabilities (e.g. learning from the home market) effectively deal with rapid changes in product features and exploit new technologies to cater to the fluidity and unpredictability of global market demands (Weber & Heidenreich, 2018). This propounds the idea that in intensely competitive scenarios, the accent should be on radical innovations over incremental improvements (Mitrega, Forkmann, Ramos, & Henneberg, 2012; Cheng & Sheu, 2018), therefore, extending a line of inquiry documenting that disruptive capability supported by the threshold capability (Pinho & Prange, 2016) is the winning strategy in a dynamic international market (see for example, Chemma, 2021).

5.2. Paths related to the post-COVID period

The fsQCA and NCA results signal a paradigm shift in the strategic manoeuvres indispensable for international performance. Whereas the pre-COVID period saw the indispensability of an IEO and a harmonious synthesis of threshold and disruptive capabilities, the post-COVID scenario accentuates the primacy of consolidation and value-adding capabilities as the sine qua non for international performance (e.g. see Table 8). Several justifications for these findings are provided below.

The logic underpinning these shifts can be teased out from several facets. In the post-pandemic period, IEFs are concerned with exhibiting an IEO (i.e., absent condition, see Table 8) and have seldom exercised their threshold capability (e.g. see Table 7). The hesitancy in manifesting IEO is not without reason. The pandemic, in its wake, left behind an altered business landscape, further convoluted by events such as the Russia-Ukraine conflict. It fundamentally recalibrated the mechanics of global trade, manifesting in reduced consumer incomes, stifled consumer spending, curtailed cross-border engagements, and fractured global networks and supply chains (Prohorovs, 2022). These upheavals exerted immense pressure on resource-limited IEFs, compelling them to re-evaluate their strategic choices. Our findings empirically validate the prediction of Zahra (2021) that the disruption of existing social and business networks caused by COVID-19 would likely reduce the flow of the ideas and resources that IEFs need to innovate, adapt, and grow. Thus, it is reasonable to expect some international new ventures to retrench their operations in the post-pandemic period. It is further underscored by a discernible aversion to an IEO, a strategic stance known for its resource-intensiveness (Mostafiz et al., 2023), exacerbated by the widespread strategy of retrenchment, characterised by cost-cutting and investment hesitation that emerged as a dominant theme across firms during this period (Wenzel, Stanske, & Lieberman, 2020). Given the multifaceted challenges and aftermaths triggered by the pandemic, the inclination of IEFs towards proactive, innovative, and risk-taking behaviours—characteristic of an IEO—has waned.

Second, our empirical evidence reveals the counterproductive effects of wielding disruptive capability in a post-COVID world. Traditionally associated with market disruption and the genesis of new opportunities through pioneering business models and innovations (Bhattacharai et al., 2019; Markides, 2006), this capability's utility is questioned in a world already dislocated by the pandemic and geopolitical tensions (Prohorovs, 2022). Radical R&D-driven innovations, especially in emergent economies, are fraught with uncertainty and exact significant resource tolls (Mostafiz et al., 2023; Zahra, 2021). Our finding echoes the literature on threat-rigidity and resonates with the notion that faced with existential threats, IEFs should recoil from innovative pursuits, reverting to tried-and-tested paradigms (Staw, Sandelands, & Dutton, 1981). In line with Hitt, Arregle, and Holmes (2021), we conclude that because of the complexities brought about by the COVID-19 pandemic, many firms have curtailed risk-taking and reduced their focus on long-term strategic

commitments in favour of short-term objectives, primarily focusing on survival. Nevertheless, an intriguing counterpoint emerges in the post-crisis milieu: resource-rich firms might be better positioned to court high-risk, transformative innovations juxtaposed against their nascent, less financially robust counterparts (Woschke, Beamish, & Makino, 2017). The IE literature also recognises the resource limitations inherent to IEFs, given their relative infancy and scale (Ahmed & Brennan, 2019). In the tumultuous post-pandemic marketplace, our research accentuates that for IEFs, aggressive innovation-centric strategies or the deployment of disruptive capabilities are not the optimal routes to stellar international performance.

Third, to secure sustainable international performance, the results of configurational combination demand the requirement for consolidation and value-adding capabilities for IEFs in the post-COVID period (e.g. see Table 7). The consolidation capability involves the creation of any structures and routines required to focus on opportunity recognition (Mostafiz, Sambasivan, & Goh, 2019) and building skills for international operations (Peng & Lin, 2021). Our finding on the consolidation capability requirement for superior international performance is in line with Pinho & Prange (2016). Consolidation capability facilitates strategic alignment and galvanises resource optimization for opportunity recognition, culminating in superior international performance. Amidst pronounced market volatility, an astute understanding of market dynamics, competitor strategies, and customer preferences becomes indispensable (Covin & Slevin, 1989). In the latter scenario, leveraging consolidation capability, IEFs can adeptly navigate competitive landscapes, deepening their customer insights and fortifying market relationships (Pinho & Prange, 2016). The NCA results also confirmed the imperativeness of consolidation capability for IEFs aiming for resilience in a post-COVID environment (e.g. see Table 8).

Furthermore, the pivotal role of value-adding capability for IEFs in this new epoch is manifested in our findings. Anchoring the essence of these value-adding capabilities is the commitment to incremental innovation and capability augmentation (Prange & Verdier, 2011). This resonates with prior literature that spotlight the pivotal role of technologically advanced IT systems and the adept harnessing of network dynamics and value capture mechanisms to sculpt a firm's resilience and trajectory during tumultuous times (Dyduch, Chudziński, Cyfert, & Zastempowski, 2021). When executed with finesse, value-adding capability metamorphoses into a potent competitive edge, accentuated by an enriched customer experience. This, in its entirety, catalyses superior market positioning and propels sales performance (Morgan, Vorhies, & Mason, 2009).

To navigate constraints, such as lockdowns and movement restrictions (Shao, Fang, Wang, Chang, & Wang, 2021), several firms embarked on transformative journeys, recalibrating their strategies. This metamorphosis manifested in a rapid migration to digital domains—be it through the inception of 'click and collect' services, doorstep deliveries, virtual conferencing, or digital consultations and instructional sessions (Grimmer, 2022). Such a digital pivot was not merely a tactical shift but represented a profound strategic evolution, positioning consumers unequivocally at the epicentre of business strategies. This renewed, digital-first, customer-centric approach is not just a transient response to the crisis but an indispensable blueprint for businesses aiming for sustainable growth through adding values in the post-pandemic global landscape.

5.3. Theoretical contributions

Our findings make twofold contributions to the IE and IB literature, particularly in relation to IEO and DIC. Building on the idea that the connection between DC and firm performance is influenced by 'a multifaceted interaction of environmental and internal elements' (Ringov, 2017, p. 2), we aim to augment an emerging configurational theory of DIC and international performance. Echoing the metaphor from Wilden et al. (2016), the 'house of DC' must be designed with a

firm-specific orientation to cater to the firm's 'neighbourhood' (industrial backdrop). We propel this perspective by theorising about and empirically probing the distinct amalgamations of IEO, DIC and the context (i.e. pre-and-post-COVID). A central revelation from our analysis is the imperative of strategic alignment across these capabilities for DICs to yield a competitive edge. Historical discussions on DC have predominantly centred on the environmental volatility contingency (see examples, Schilke, 2014; Teece et al., 1997). Nevertheless, recent developments acknowledge the effectiveness of DCs even in stable settings (Schilke et al., 2018). Progressing along this trajectory, we highlight that context is an underexplored dimension that influences the configurations of IEO and DIC in a shifting landscapes. We navigate untrodden terrains by shedding light on the intricate interplay between IEO and DICs, pivotal for optimizing the performance of IEFs across variegated dynamic epochs. Our revelation pivots around the idea that the interweaving of IEO and DICs, crucial for securing international performance, is not static but is contingent on temporal dynamics – while considering pre-COVID and post-COVID as the context that shapes firms behaviour and strategic posture. Hence, our first contribution relates to the theoretical scaffolding of IEO (Boso et al., 2017; Clark & Covin, 2021; Satyanarayana et al., 2022), emphasizing that the concurrence of DICs is indispensable for IEFs to realize consistent returns from their IEO (i.e. in the pre-COVID period). Specifically, we posit that DICs are the catalysts propelling firm's international entrepreneurial endeavours towards optimal international outcomes. We thus enrich the knowledge on IEO by showing its significance for IEFs, and how DICs can be mobilised to convert any IEO-driven actions into successful wealth creation. Likewise, by revealing the combination of DICs conditions, we advance the configurational theorisation of DCs (Gelhard et al., 2016; Wilden et al., 2016; Fainshmidt, Wenger, Pezeshkan, & Mallon, 2019; Zahra et al., 2022), solidifying its theoretical foundation, especially in crisis navigation in the post-COVID period.

Second, drawing inspiration from McKenny et al. (2018), Yin et al. (2020), and Mostafiz et al. (2023) who emphasised the influence of context in reshaping IEO behaviours, we propose a triadic theoretical explanation of IEO, DICs, and context, and explicate the conditions required to stably unlock the potential of IEO and DICs by prioritising the context (i.e., the COVID pandemic). We showed that the equifinality perspective of IEO (Covin et al., 2020; Thanos, Dimitratos, & Sapouna, 2017) and DCs (Gelhard et al., 2016; Wilden et al., 2016) as being instrumental for theoretical development, especially when factoring in the intricacies introduced by the prevailing context (Mostafiz et al., 2023). To do so, we introduced fsQCA and NCA to identify the conditions necessary to establish the conjunctural causations within these configurations, revealing which DICs had been essential for the international success of IEFs at two different times.

Specifically, we reveal that DICs support two views of IEO: the first of which posits that under normal conditions (e.g., the pre-COVID period), IEFs manifest high-levels of IEO and invest significant amounts of resources into threshold and disruptive capabilities in order to innovate, function competitively, and succeed internationally. Conversely, the second view holds that, in the presence of any unavailability of resources as a result of exogenous shocks, such as those caused by the COVID-19 pandemic (Zahra, 2021), IEFs exhibit a subdued IEO inclination, sidestepping the disruptive and threshold capabilities. Instead, IEFs become keen on leveraging their consolidation and value-adding capabilities by following routine structures to create value globally. Notwithstanding the substantial resource allocation concerned with nurturing actionable DICs (Zahra et al., 2022), in the post-COVID period, the consolidation and value-adding capabilities have the potential to deliver a better chance of international success. We articulated this clear distinction by establishing that a careful configurational combination with DICs is required for an IEO to yield rents, with a significant priority given to the context (i.e., competitive vs. uncertain/volatile markets/times).

5.4. Managerial implications

In extending into the international arena the question posed by Hodgkinson et al. (2016) of how managers of firms in emerging economies can generate performance returns from their entrepreneurial orientation, our findings suggest that those firms that are endowed with configurations of consolidation and value-adding capabilities enjoy enhanced performance under adverse market conditions. Consequently, when the market is disrupted, the managers of IEFs should focus on the development and application of these capabilities. For instance, AirAsia—an IEF, once a domestic airline, transformed itself into Asia's leading low-cost carrier by leveraging disruptive capabilities during stable economic times. This allowed them to innovate and tap into international markets effectively. However, the COVID-19 pandemic drastically affected the aviation industry worldwide. AirAsia swiftly pivoted its strategy, focusing on its consolidation capabilities. They dived into the digital space, launching 'AirAsia Food' and 'AirAsia Shop', capitalising on the rising e-commerce trend in Malaysia (Nair et al., 2021), thus showing the importance of adaptability in an ever-changing global context. However, it should be noted that such capabilities, as examined, may require different organisational arrangements for their implementation (Pinho & Prange, 2016) and provide organisations with different incentives towards internationalisation (Prange & Verdier, 2011) upon which their performance objectives are largely dependent. For instance, many organisations—such as Google, Microsoft, Uber and others—are reshaping their policies and streamlining their technological operations in order to build hybrid work models by consolidating remote and on-site working arrangements in the wake of the pandemic (c.f., Verma et al., 2022). Likewise, another IEF, such as Grab (a ride-sharing platform), had to reorient its IEO behaviour from being a ride-hailing service in Malaysia. During the pandemic's peak, they emphasized their food delivery and digital payment services, GrabFood and GrabPay, leveraging their value-adding capabilities to cater to the local needs amidst lockdowns (Teng, Zailani, Rahman, Bhuiyan, & Mamun, 2023). These instances underscore the vital lesson for entrepreneurs and managers: it is crucial to be nimble and adaptable, prioritising different capabilities based on the prevailing

context. Whether facing the bustling growth of Southeast Asian markets or navigating uncertainties like the pandemic, Malaysian IEFs should blend their international ambitions with local contextual realities to stay relevant and successful.

5.5. Limitations and conclusions

In our study, we conceptualise the need for configurational analysis to understand and unpack the utility of IEO in conjunction with DICs. We found that IEO and DICs co-exist in configurational combinations, albeit with significant differences between the pre-and-post-COVID periods. While, in the pre-COVID period, IEFs had been keen to exhibit and engage in an IEO, they had relied more on the threshold and disruptive dimensions of DICs. Conversely, in the post-COVID period, they are being very careful in manifesting an IEO and are relying more on the consolidation and value-adding aspects of DICs. Despite offering a rich theoretical scaffolding to IEO and DICs, our study is not free from limitations. First, the data were sourced from a single emerging economy, which may have led to bias, as IEFs from developed economies may behave differently in regard to manifesting an IEO and reconfiguring DICs (Mostafiz et al., 2023). Second, our analysis did not take into account any industry-specific effects, as the COVID pandemic had a substantial impact on some industries, such as tourism, whereas others, such as IT or e-commerce, thrived. Similarly, we do not directly consider the stage of firm maturity (the lifecycle of the firm), as suggested by Hughes et al. (2018). Hence, a more nuanced analysis of IEO in combination with various strategic capabilities is required to refine the theoretical knowledge and offer rich implications to practitioners concerning the preservation of global competitiveness. Third, we also accept that there are likely other configurations that could also factor into enhancing international performance post-COVID and encourage IE scholars to take forward this research agenda through further use of the configurational approach.

Data Availability

Data will be made available on request.

Appendix 1

Constructs/items	Standard loadings (pooled)	Standard loadings (pre-COVID)	Standard loadings (post-COVID)
International entrepreneurial orientation			
<i>Proactiveness (Our firm)</i>			
Regularly attends local/foreign trade fairs to seize opportunity	0.768	0.729	0.753
Usually spends time abroad to visit and identify opportunities	0.795	0.773	0.761
Actively seeks contact with suppliers or clients as opportunities in international markets	0.717	0.706	0.768
Regularly monitors the trend of export markets to deal with new challenges	0.797	0.721	0.739
Actively explores business opportunities abroad	0.756	0.734	0.718
<i>Risk-taking attitude (Our firm)</i>			
Focusses more on attractive international opportunities	0.716	0.776	0.785
Is always tolerant to potential risk when confronted with decisions about exporting or international operations	0.701	0.739	0.752
Has a shared vision towards foreign market risk	0.739	0.702	0.742
Values risk-taking opportunities abroad	0.740	0.772	0.735
<i>Innovativeness (Our firm)</i>			
Is oriented to encourage new ideas for international markets operations	0.763	0.732	0.730
Is very receptive to innovative ways of exploring international market opportunities	0.778	0.756	0.761
Believes that the opportunities offered by international markets are greater than those found in the domestic one	0.756	0.767	0.702
Is oriented to seek new export markets	0.738	0.781	0.727
Is willing to consider new suppliers/clients abroad	0.774	0.705	0.711
Dynamic Internationalisation capability			
<i>Threshold capabilities</i>			
Our firm acquires export-related information about new markets	0.709	0.758	0.770
Our firm assesses the potential of new markets	0.758	0.792	0.779
Our firm assesses the potential of new competitors	0.715	0.702	0.714

(continued on next page)

(continued)

Constructs/items	Standard loadings (pooled)	Standard loadings (pre-COVID)	Standard loadings (post-COVID)
Our firm builds relationships with new international suppliers	0.762	0.725	0.739
Our firm builds relationships with new local suppliers	0.745	0.777	0.716
<i>Consolidation capabilities</i>			
Our firm prioritises the collection of important information in existing markets	0.737	0.716	0.746
Our firm reinforces its contacts in its current export markets	0.749	0.789	0.737
Our firm engages in the monitoring of competitive products in its current export markets	0.780	0.709	0.733
Our firm prioritises its understanding of the requirements of its existing overseas customers	0.750	0.719	0.736
<i>Disruption capabilities</i>			
Our firm implements radical processes, products, and services	0.784	0.787	0.725
Our firm acquires radically new technologies	0.733	0.748	0.796
Our firm learns new technologies of which it has no prior experience	0.761	0.715	0.790
Our firm acquires competencies in radically new processes and products/services	0.747	0.769	0.766
<i>Value-adding capabilities</i>			
Our firm improves the quality of its processes, products, and services	0.714	0.781	0.759
Our firm invests in enhancing its skills in exploiting mature technologies that improve productivity	0.729	0.792	0.777
Our firm upgrades its skills in product/service-development processes	0.728	0.794	0.732
Our firm builds its competencies in seeking to solve customer problems that are near to existing solutions	0.706	0.779	0.795
Our firm implements new manufacturing/service-generation processes	0.742	0.797	0.726
Our firm acquires new technological knowledge	0.721	0.742	0.746
International performance			
Growth in overseas markets (growth performance)	0.767	0.751	0.702
Market shares in overseas markets (market share performance)	0.744	0.741	0.765
Profitability from overseas expansion (profitability performance)	0.778	0.774	0.739
Return on investment through overseas sales (return on investment performance)	0.761	0.722	0.771
Increase in foreign customer satisfaction (customer satisfaction performance)	0.756	0.782	0.746

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